| TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT (Under 37 CFR 1.97(b) or 1.97(c)) | Docket No. 14311 |
|---|---|

In Re Application Of: **Alexander P. Moravsky, et al.**

| Application No. | Filing Date | Examiner | Customer No. | Group Art Unit | Confirmation No. |
|---|---|---|---|---|---|
| 09/680,291 | October 6, 2000 | Ashok Patel | 23389 | 2879 | 9193 |

Title: **DOUBLE-WALLED CARBON NANOTUBES AND METHODS FOR PRODUCTION AND APPLICATION**



Address to:
**Commissioner for Patents**
**P.O. Box 1450**
**Alexandria, VA 22313-1450**

**37 CFR 1.97(b)**

1. ☐ The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application other than a continued prosecution application under 37 CFR 1.53(d); within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; before the mailing of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

**37 CFR 1.97(c)**

2. ☒ The Information Disclosure Statement submitted herewith is being filed after the period specified in 37 CFR 1.97(b), provided that the Information Disclosure Statement is filed before the mailing date of a Final Action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an Action that otherwise closes prosecution in the application, and is accompanied by one of:

   ☐ the statement specified in 37 CFR 1.97(e);

   **OR**

   ☒ the fee set forth in 37 CFR 1.17(p).

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## Payment of Fee

**(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))**

- ☒ A check in the amount of **$180.00** is attached.
- ☒ The Director is hereby authorized to charge and credit Deposit Account No. **19-1013/SSMP** as described below.
  - ☐ Charge the amount of
  - ☒ Credit any overpayment.
  - ☒ Charge any additional fee required.
- ☐ Payment by credit card. Form PTO-2038 is attached.

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on

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Mark J. Cohen

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Mark J. Cohen

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Mark J. Cohen

*Signature*

Dated: **April 19, 2007**

**Mark J. Cohen**
**Registration No.: 32,211**
**Scully, Scott, Murphy & Presser, P.C.**
**400 Garden City Plaza, Suite 300**
**Garden City, New York 11530**
**(516) 742-4343**

cc: **MJC:htj**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

| | | | |
|---|---|---|---|
| **Applicant(s):** | Alexander P. Moravsky, et al. | **Examiner:** | Ashok Patel |
| **Serial No:** | 09/680,291 | **Art Unit:** | 2879 |
| **Filed:** | October 6, 2000 | **Docket:** | 14311 |
| **For:** | DOUBLE-WALLED CARBON NANOTUBES AND METHODS FOR PRODUCTION AND APPLICATION | **Dated:** | April 19, 2007 |

**Confirmation No.: 9193**

Mailstop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with 37 C.F.R. §§ 1.97 and 1.98, it is requested that the references, which are listed on the attached Form PTO-1449, be made of record in the above-identified case.

Applicants are submitting copies of the references.

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**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on April 19, 2007.

Dated: April 19, 2007

Mark J. Cohen

Consideration of this Information Disclosure Statement is respectfully requested, since the art provided may be material to the examination of the present application as defined under 37 C.F.R. §1.56.

Inasmuch as this Information Disclosure Statement is being submitted in accordance with the schedule set out in 37 C.F.R. § 1.97(c), a check in the amount of $180.00 is enclosed.

Respectfully submitted,

Mark J. Cohen
Registration No. 32,211

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MJC:htj

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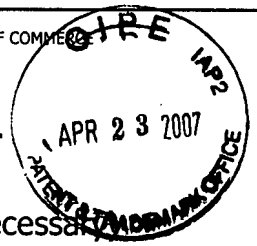


# LIST OF PRIOR ART CITED BY APPLICANT

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| Atty. Docket No. | Serial No. |
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| 14311 | 09/680,291 |
| **Applicant** | |
| Alexander P. Moravsky et al. | |
| **Filing Date** | **Group** |
| October 6, 2000 | 2879 |

## U.S. PATENT DOCUMENTS

| EXAMINER INITIAL* | | DOCUMENT NUMBER | DATE | NAME | CLASS | SUBCLASS | FILING DATE (if appropriate) |
|---|---|---|---|---|---|---|---|
| | 1 | 6,517,800 | 02-2003 | Cheng et al. | | | |
| | 2 | 6,790,426 | 09-2004 | Ohsaki, Takashi | | | |
| | 3 | 6,692,717 | 02-2004 | Smalley et al. | | | |
| | 4 | 5,747,161 | 05/05/1998 | Iijima | | | |
| | 5 | 5,830,326 | 11/03/1998 | Iijima | | | |

| | | Foreign Document Number | Date | Country | CLASS | SUBCLASS | TRANSLATION YES | TRANSLATION NO |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

| | | |
|---|---|---|
| | 6 | Bacsa, R.R. et al. "High specific surface area carbon nanotubes from catalytic chemical vapor deposition process", *Chemical Physics Letters 323:* 566-571 (2000) |
| | 7 | Cassell et al., "Large Scale CVD Synthesis of Single-Walled Carbon Nanotubes", *J. Phys. Chem. B.,* 103 (31): 6484-6492 (1999) |
| | 8 | Cheng, H.M. et al., "Large-scale and low-cost synthesis of single-walled carbon nanotubes by the catalytic pyrolysis of hydrocarbons", *Applied Physics Letters,* 72(25): 3282-3284 (1998) |
| | 9 | Cheng, H.M. et al., "Bulk morphology and diameter distribution of single-walled carbon nanotubes synthesized by catalytic decomposition of hydrocarbons", *Chemical Physics Letters 289:* 602-610 (1998) |
| | 10 | Colomer, J.F., et al., "Synthesis of single-wall carbon nanotubes by catalytic decomposition of hydrocarbons", *Chem. Comm.*: 1343-1344 (1999) |
| | 11 | Flahaut, E., et al., "Synthesis of single-walled carbon nanotube-Co-MgO composite powders and extraction of the nanotubes", *The Royal Society of Chemistry*: 249-252 (2000) |
| | 12 | Dai, Hongjie et al., "Single-wall nanotubes produced by metal-catalyzed disproportionation of carbon monoxide, *Chemical Physics Letters 260:* 471-475 (1996) |
| | 13 | Hafner, Jason H. et al., "catalytic growth of single-wall carbon nanotubes from metal particles", *Chemical Physics Letters 296:* 195-202 (1998) |
| | 14 | Hernadi, K. et al., "Synthesis, Properties & Application - Catalytic Synthesis of Carbon Nanotubes", *Springer Series,* 33: 81-97 (1998) |
| | 15 | Hiraoka, Tatsuki, et al. "Selective synthesis of double-wall carbon nanotubes by CCVD of acetylene using zeolite supports," *Chemical Physics Letters 382*: 679-685 (2003) |
| | 16 | Hongo, H. et al., "chemical vapor deposition of single-wall carbon nanotubes on iron-film-coated sapphire substrates," *Chemical Physics Letters 361*: 349-354 (2002) |

| EXAMINER | DATE CONSIDERED |
|---|---|
| | |

*** EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.**

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# LIST OF PRIOR ART CITED BY APPLICANT

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| 14311 | 09/680,291 |
| **Applicant** Alexander P. Moravsky et al. | |
| **Filing Date** October 6, 2000 | **Group** 2879 |

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| | | Foreign Document Number | Date | Country | CLASS | SUBCLASS | TRANSLATION YES | TRANSLATION NO |
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| | | | | | | | | |

## OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

| | | |
|---|---|---|
| | 17 | Hutchison, J.L. et al., "Double-walled carbon nanotubes fabricated by a hydrogen arc discharge method", *Carbon* 39: 761-770 (2001) |
| | 18 | Kiang, C. et al., "Catalytic Synthesis of Single-Layer Carbon Narotubes with a Wide Range of Diameters", *J. Phys. Chem.* 98: 6612-6618 (1994) |
| | 19 | Kitiyanan, et al., "Controlled production of single-wall carbon nanotubes by catalytic decomposition of CO on bimetallic Co-Mo catalysts", *Chemical Physics Letters 317*: 497-503 (2000) |
| | 20 | Li, Qingwen et al., "Pulsed CVD growth of single-walled carbon nanotubes", *Carbon*: 2873-2884 (2003) |
| | 21 | Li, W.Z. et al., "Clean double-walled carbon nanotubes synthesized by CVD", *Chemical Physics Letters 368:* 299-306 (2003) |
| | 22 | Liu, C. et al., "Semi-continuous synthesis of single-walled carbon nanotubes by a hydrogen arc discharge method," *Carbon* 37: 1865-1868 (1999) |
| | 23 | Peigney, Alain et al., "A study of the Formation of Single- and Double- Walled Carbon Nanotubes by a CVD Method", *J. Phys. Chem.* B. 105: 9699-9710 (2001) |
| | 24 | Resasco, W.E., et al., "A scalable process for production of single-walled carbon nanotubes (SWNTs) by catalytic disproportionation of CO on a solid catalyst", *Journal of Nanoparticle Research,* 4: 131-136 (2002) |
| | 25 | Saito, Yahachi, et al., "Growth Conditions of Double-Walled Carbon Nanotubes in Arc Discharge", *J. Phys. Chem. B,* 107: 931-934 (2003) |
| | 26 | Zhou Zhenping, et al., "Producing cleaner double-walled carbon nanotubes in a floating catalyst system", *Carbon*, 41: 2607-2611 (2003) |
| | 27 | Zhou Zhenping, et al., "Controllable growth of double wall carbon nanotubes in a floating catalyst system", *Carbon*, 41: 337-342 (2003) |
| | 28 | Zhu, Hongwei, et al., "A new method for synthesizing double-walled carbon nanotubes", *Carbon* 40: 2021-2040 (2002) |

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